Journal of Contemporary Economics (JCE)
Vol. 10, No. 1, 2026

International entrepreneurial orientation: the analysis of reliability and validity of the scale in the context of small and medium-sized enterprises of Bosnia and Herzegovina

Lidija Mitrašević[1]
University East Sarajevo, Faculty of Economics Brčko, Studentska 11, 76100 Brčko, Bosnia and Herzegovina

ARTICLE INFO
Original paper
Received: 29th of January, 2026
Revised: 02nd of April, 2026
Accepted: 14th of April, 2026
doi:10.7251/JOCE2610047M
UDKxxx

Keywords:
international entrepreneurial orientation (IEO) scale, export-oriented small and medium-sized enterprises (SMEs), developing countries, Cronbach's alfa, Principal Components Analysis (PCA)
JEL Classification: F23, L26, C38, L25, O57

ABSTRACT
The focus of this research is on the operationalization of the concept of international entrepreneurial orientation (IEO) as the most common construction used for evaluating the determinants of entrepreneurial behavior of the organizations that intend or are already included in international business. Starting from the theoretical basis of the concept and the current empirically verified measurement scales, a modified measurement instrument has been developed, which is adjusted to the specific context of the research: a small and open post-transition country of upper middle income – Bosnia and Herzegovina (BiH). The aim is to determine whether and to what extent the modified instrument IEO is reliable and valid for small and medium-sized enterprises (SMEs) from post-transition countries which strive to realize entrepreneurial internationalization in the conditions of institutional discontinuity. In order to determine constructive reliability of the innovated scale of IEO, Cronbach's alfa coefficient, with its accompanying indicators was used, while the technique of Principal Components Analysis (PCA) with Promax rotation was applied to check the validity. Empirical research was realized on a sample of 81 export-oriented Bosnia and Herzegovina SMEs. The research results show that modified IEO scale has good internal consistency, as well as subscales, that is, its dimensions: international innovativeness (5 items), international proactiveness (3 items) and international risk-taking (3 items). The rotated solution of PCA for IEO scale uncovered the existence of a simple structure as all three components (international innovativeness, international proactiveness and international risk-taking) have a lot of large factor loadings and all items provide big loadings only per one component. In accordance with the results, the modified IEO scale has a potential to contribute to the research of international entrepreneurship in developing countries, creating the basis for more intensive empirical research, with facilitating collecting, measuring, analyzing and interpreting data for pragmatic purposes.

1Lidija Mitrašević, PhD, Assistant Professor, e-mail address: lidija.mitrasevic@efb.ues.rs.ba (L. Mitrašević). Published online first 25th of April 2026. Published by the Republic of Srpska Association of Economists „SWOT", Bosnia and Herzegovina.

1. Introduction

Entrepreneurial orientation (EO) is a characteristic of the organizations that conduct product-market innovations, undertake a certain level of risk and they are the first to reach proactive innovations so as to beat the competition (Miller, 1983, p. 771.). According to Petković and Sorak (2019), EO has become one of the most established constructs in entrepreneurship and broader research of management, which is confirmed by numerous literature reviews in the area of entrepreneurial orientation in the last few decades (Covin & Lumpkin, 2011; Covin & Wales, 2012; Covin & Miller, 2014; Anderson et al., 2015). In relevant literature, the EO concept has been discussed for more than four decades, that is, since the research of Khandwalla (1977) and Miller (1983, stated in Basso et al., 2009). Besides the aforementioned authors, the research of Miller and Friesen (1982), Covin and Slevin (1989; 1991) and Lumpkin and Dess (1996) has also contributed to the EO concept development.

The significance of EO concept arises from the assumption that it determines a continuous variable (or a set of variables) based on which all the business entities can be positioned in the range from conservative to entrepreneurial behaviour (Hunt, 2021, p. 245). The focus is on the organizations' entrepreneurial activities regardless of their scope of business (a local, regional, national, international or global market), degree of development of institutional environment, size, age, ownership structure, etc., which is the reason why this concept, besides academic attention, has broad pragmatic usefulness (Jones et al., 2011).

In relevant literature, there is a debate about whether EO concepts and international entrepreneurial orientations (IEO) should be observed as different constructions, or if the orientation towards foreign market is just one of the contexts in which EO manifests. According to Covin and Miller (2014, pp. 3-4), a significant portion of the IEO research uses the so-called M/C&S scale (Miller, 1983; Covin & Slevin, 1989) for operationalization, that is, the scale for the assessment of entrepreneurial orientation applied in the international context (e.g. Mostafa et al, 2005; Zhang et al., 2012, stated in Covin & Miller, 2014).

However, as Covin and Miller (2014) state, there is also other research in which, during IEO operationalization, the following terms are explicitly stated: "export markets", "on a foreign market", "international operations" or other specific international terminology. It indicates that IEO is measured as a special international construction with the use of dimensions which are included in a broader concept of entrepreneurial orientation. In such research, IEO represents a subcategory of the EO concept with the emphasis on international context (Covin & Miller, 2014). It is in accordance with the definition of international entrepreneurship by McDougall and Oviatt (2000) according to which international entrepreneurship represents "a combination of innovative, proactive and risk-taking behaviour outside national borders and aims at creating value in organizations" (p. 903).

However, as Wales et al. (2019) state, IEO is not only entrepreneurial orientation in international context, because enterprises are likely to achieve international expansion if they possess more distinct IEO and capabilities relevant for international business. Such enterprises possess distinct characteristics which reflect in more pronounced initial commitment to internationalization, and they express internationally-oriented risk-taking, proactiveness and innovativeness (Gupta et al., 2021).

Current research has shown that the implementation of the EO concept does not have the same benefits in all business contexts, i.e., that there is a contextually-specific character of efficient entrepreneurial practice (Rwehumbiza & Marinov, 2020). The research in the area of international entrepreneurship considers the IEO concept by applying different approaches to measurement and different measurement scales depending on the temporal, industrial, organizational and institutional context (Mostafiz et al., 2023). From the aspect of institutional context, the research of post-communist transitional economies is appropriate for the purpose of revising theoretical settings of international entrepreneurship established in developed countries. It, among other things, relates to the existence of institutional discontinuity in the countries of Southeast Europe and Eastern Europe where the pace of the destruction of the institutions of centrally-planned economies was faster than the creation of new institutions adjusted to doing business through a market (Roth & Banalieva, 2016).

In this research, the measurement instrument of IEO concept is adjusted to the specificities of export-oriented small and medium-sized enterprises

(SMEs) from Bosnia and Herzegovina (BiH), which do business in the conditions of underdeveloped environment (Mitrašević et al., 2023). This is especially interesting because the research on IEO of SMEs from developing countries and post-transition economies are still relatively rare, and most of them relate to Brazil, Russia, India or China (Inkizhinov et al., 2021). Considering that it was determined that IEO encourages internationalization and realizes positive influence on international performances of SMEs in developed countries (Ahmed & Brennan, 2019), it is equally significant to test SMEs of underdeveloped institutional environments which do business on an international market. In order to realize that and create the basis for empirical research in developing countries, it is necessary to possess a reliable and valid IEO scale. In accordance with the aforementioned, the aim of research is the analysis of reliability and validity of the modified instrument IEO in the context of SMEs of post-transition countries which strive to achieve entrepreneurial internationalization in the conditions of institutional discontinuity. The research was designed to fill the identified, research gap relating to a low level of the presence of testing of psychometric features of IEO scale applicable to SMEs sector in developing countries, specific for resource scarcity and poor institutional support. The need for enriching the research of international entrepreneurship by including institutional theory in the reliability and validity of IEO measurement instrument analysis was determined, with the focus on atypical context of doing business of export-oriented SMEs of Bosnia and Herzegovina.

The conducted research realizes theoretical contribution through conceptual understanding of the application of IEO scale in a small and open post-transition economy such as BiH and encourages future research of the influence of IEO on other key variables such as export performance of SMEs. The revised IEO scale helps policy creators to identify SMEs with the pronounced international entrepreneurial orientation towards which they will direct appropriate financial and non-financial support activities. The scale provides the assessment of entrepreneurial intentions of young entrepreneurs in post-transition economies, barrier identification and subsidy priorities so as to encourage faster international expansion and generate a higher employment rate. The revised IEO scale helps the managers of export-oriented SMEs of developing countries to assess the readiness of an enterprise for internationalization, identify strengths and weaknesses, determine the needs for the additional education with the aim of developing capabilities necessary for doing business in uncertain global environment. In addition, it facilitates the assessment of internationalization risk, encouragement of innovation and proactive action against competition on an international market for managers.

In the following parts of the paper, there is the literature review regarding the conceptualization of IEO construction, its dimensions and measurement instrument, and research hypotheses are developed. After that, research methodology, research results and the discussion of results follow. The paper ends with the conclusions and implications on the theory, policies and managerial decisions, as well as with the description of research limitations and suggestions for further research.

2. Literature review and hypotheses development

2.1. The concept of international entrepreneurial orientation

International entrepreneurial orientation (IEO) is a global enterprise orientation which reflects its tendency to be engaged in innovative and risky activities in order to realize strategic goals. It represents the tendency to develop novel and original ideas, products or processes, as well as to undertake activities abroad (Knight, 2001, p. 14.). According to Freeman and Cavusgil (2007, p. 3.), IEO relates to globally-oriented elements of behavior and encompasses the tendency of top management for risk-taking, innovativeness and proactiveness. Unlike their definition, which is based on Miller's (1983) original EO conceptualization composed of three dimensions, Sundqvist et al. (2012) define IEO using five dimensions, based on the EO definition proposed by Lumpkin and Dess (1996). According to them, IEO represents a set of behaviors linked to potential value creation which is manifested in proactive and innovative methods, risk-taking activities, autonomous actions and striving to beat the competition, which is directed at discovering, evaluating and exploiting opportunities outside national borders (Sundqvist et al., 2012, p. 205).

In addition to the abovementioned, in relevant literature, there is also research in which the number of dimensions of entrepreneurial orientation varies from six (6) to eleven (11) (Smart & Conant, 2011; Wiklund & Shepherd, 2005; Pérez-Luño et al., 2011). However, as Covin and Miller (2014) point out, in empirical research, for the IEO operationalization, the measurement scales which involve three dimensions – innovativeness, risk-taking and proactiveness are mainly used. In accordance with the aforementioned, in this research, for the purposes of IEO scale construction, the three previously mentioned dimensions, i.e., international innovativeness, international proactiveness and international risk-taking adjusted to research context will be used.

2.2. The dimensions of international entrepreneurial orientations

International innovativeness reflects the manner in which enterprises strive to identify profitable business opportunities beyond the boundaries of national economy. It manifests as an enterprise's tendency to engage itself in realizing novel and creative ideas, products and processes in order to satisfy foreign market requirements (Knight & Kim, 2009).

International proactiveness represents readiness and capability to anticipate future problems, needs or changes with the aim of easier overcoming of unexpected difficulties on an international market. It simultaneously relates to satisfying the demand and competition for demand on an international market (García-Villaverde et al., 2012, p. 265).

International risk-taking is the degree at which an enterprise is ready to employ considerable resources and undertake responsibilities on an international market, by exploring and identifying risky opportunities that have above-average profitability, but also real chances of failure (Dimitratos et al., 2010). Risk tolerance is necessary to achieve international expansion, and it represents an optimistic approach to viewing current situation as a profitable business opportunity and not a threat.

2.3. Previous research of reliability and validity of the measurement instrument

Covin et al. (2020) emphasize that entrepreneurial orientation, besides the organizational level, should be considered at the individual level as well, with the focus on non-managerial positions. Such approach required the reformulation of the M/C&S scale items, i.e. its adjustment to the individual level of analysis, and resulted in creating an instrument for measuring individual EO (innovativeness – 3 items, proactiveness – 3 items and team risk-taking – 3 items). The results of the scale reliability analysis showed that the values of Cronbach's alpha coefficient are acceptable (>0.69), and by principal components analysis with Varimax rotation, the suitability of combining items in one scale was determined since factor loadings are strong (>0.539). The aforementioned demonstrated that there is adequate adjustment of the suggested model to the data, and that EO scale can be used for research on the individual and team level.

In their research, Kabir et al. (2023) assessed the reliability and validity of EO scale in specific contextual conditions, i.e. on a sample of 45 informal enterprises from Nigeria. As a measurement instrument, M/C&S scale with nine items for measuring innovativeness, proactiveness and risk-taking was used, which was supplemented with one item for innovativeness dimension (structural modification). Cronbach's alpha coefficient and principal components analysis with Varimax rotation indicated that "structural modification" item proved insignificant and that it lacked consistency with other items at the level of an enterprise. In accordance with the results, this item was deleted as the authors reached a conclusion it is a redundant item.

Ahmed and Brennan (2019) tested the reliability of IEO scale while researching the influence of international entrepreneurial orientation of founders on the degree and scope of early internationalized enterprises from Bangladesh. As a basis for constructing a measurement instrument, M/C&S scale with three items per innovativeness, proactiveness and risk-taking dimension was used. The scale was tested on a sample of 159 early internationalized enterprises that produce clothes, and results showed high level of reliability and validity. According to reliability statistics, Cronbach's alpha coefficient for international risk-taking dimension amounts to 0.743, international proactiveness dimension 0.846 and international innovativeness dimension 0.658, based on which it

was concluded that all the items can compose a measurement scale.

Mostafiz et al. (2025) conducted longitudinal research of differences between configurational combinations of international entrepreneurial orientation and dynamic international capabilities in the period before and after Covid-19 pandemic, on a sample of early internationalized enterprises from Malesia. For IEO operationalization, they used the scale developed by Hernández-Perlines et al. (2016), which consists of three dimensions (innovativeness, risk-taking and proactiveness) with 14 items. The item that relates to innovativeness is, for example, "our enterprise believes that the opportunities offered by international markets are greater than those on the domestic one"; the item that relates to proactiveness is, for example, "we regularly follow the trends of export markets so that we can deal with new challenges", and for risk-taking, e.g. "we are always tolerant to potential risk when facing the decisions on export or international operations". Reliability and validity analysis demonstrated adequate internal consistency of IEO scale, as all the values of Cronbach's alpha and composite reliability are higher than 0.70.

Zafar et al. (2022) researched the influence of social entrepreneurial orientation on societal and financial performances of social enterprises from Pakistan on a sample of 810 employees during the Covid-19 pandemic. The scale for measuring social entrepreneurial orientation was constructed on the basis of conceptualization offered by Kraus et al. (2017), and which consists of four dimensions: social innovativeness, social risk-taking, social proactiveness and socialization. According to the reliability statistics, Cronbach's alpha coefficient for social innovativeness dimension amounts to 0.871, social risk-taking dimension 0.869, social proactiveness dimension 0.882 and socialization dimension 0.821, which points to adequate internal construct reliability. Also, discriminatory validity for all measures was confirmed.

Todorovic et al. (2011) created a new scale "ENTRE-U" with the aim of measuring EO of university departments, which includes four dimensions: research mobilization (6 items), unconventionality (9 items), cooperation with industry (5 items) and perception of university policies (4 items). Cronbach's alpha coefficient for research mobilization dimension amounts to 0.859, unconventionality dimension 0.835, cooperation with industry dimension 0.859 and the perception of university policies dimension 0.808 (after deleting one item), which indicates that items can measure the aforementioned dimensions. By analyzing principal components with Promax rotation, a four-factor solution was confirmed.

Based on the literature review, it can be observed that EO/IEO is researched at the level of an organization, team or individual in different organizational contexts (informal enterprises, early internationalized enterprises, social enterprises, universities). As a measurement instrument, researchers use a scale the validity of which has been confirmed in a lot of research (for example, M/C&S scale), keeping the same number of dimensions and items, or modifying them to a lesser extent in accordance with the research context. On the other hand, for the purpose of measuring entrepreneurial orientation, certain research uses scales that are empirically less common or they create their own scales for EO manifestations in specific contexts (e.g. ENTRE-U).

2.4. Hypotheses development

International entrepreneurial orientation represents a phenomenon of a cognitive nature (qualitative attribute), whose value cannot be determined by using conventional measurement techniques. For this reason, in relevant research, a Likert scale is used, which contains a set of interconnected statements that respondents assess depending on the degree of alignment (from significant misalignment to significant alignment) on a metric scale. In that way, a composite indicator (a latent variable) (McDonald, 2013) which enables research phenomenon operationalization is formed. In order to enable the replication of consistent results over time and simultaneously ensure the reliability of those results, the assessment of reliability and validity of the measurement scale is conducted (Olmsted, 2024). According to Pallant (2009, p. 97) scale reliability varies depending on the sample which is used, so its reliability has to be checked on a concrete sample. Given that the subject of this research are export-oriented SMEs from BiH which do business in the conditions of institutional discontinuity and that a modified measurement scale was used in the assessment of their IEO, research hypotheses are:

H1: The IEO scale items used in this empirical

study of SMEs from BiH exhibit significant internal consistency.

H2: The IEO measurement scale used in this empirical study of SMEs from BiH is consistent with other scales measuring IEO.

3. Research methodology and research instrument

3.1. Research context

Bosnia and Herzegovina (BiH) represents a small and open developing country, which comprises the population of 3.28 million inhabitants according to the estimates from 2021 (OECD, 2022, p. 445). It is ranked among upper-middle-income countries, with a gross domestic product (GDP) of approximately 24.9 billion euros in 2023 (OECD, 2024, p. 28). According to the estimates of European Commission (European Commission, 2021) 67.242 enterprises do business in BiH, out of which 233 (0.4%) are large enterprises and 67.009 (99.6%) are SMEs, with the contribution to the added value of 37.3% and 62.7%, and employment of 30.9% and 69.1% respectively. In 2019, import share in GDP was 40.0% (European Commission, 2024), while enterprise prevalence by their size in export was of the following structure: 11.03% micro enterprises, 21.32% small enterprises, 28.89% medium enterprises and 38.76% large enterprises (OECD, 2022, p. 331). Although the share, the contribution to the added value and employment of SMEs in BiH was significant, their potential was not sufficiently used due to the limited inclusion in international business, which is also indicated by the fact that the foreign trade deficit in 2022 amounted to 4.3% of GDP (European Commission, 2024).

3.2. Data collection and research sample

In order to determine to which extent, the modified IEO instrument is reliable and valid for SMEs from post-transition countries that strive to achieve entrepreneurial internationalization in the conditions of institutional discontinuity, empirical research was conducted. For the research needs, a questionnaire in digital form was created by using online tool, Google Docs.

By analyzing available electronic databases about enterprises from BiH, it was determined that the enterprises that were registered in the Directory of exporters of the Foreign trade chamber of BiH represented a representative target population. Since the Directory of exporters is conceptualized so that it offers insight into the data of export enterprises according to the Classification of enterprises (Section, Head, Tariff) and according to Name, Activity, and Type of Exported Goods, but not a single comprehensive overview of all export enterprises, multiple entries were eliminated. In that way, their own base was formed, which contains 1.154 export enterprises in the area of BiH. The questionnaire, together with the cover letter, was sent to the emails of all 1.154 enterprises in the base.

After conducting three rounds of survey, 88 questionnaires were collected (the rate of response to the questionnaire is 8.25%). After the validation of the collected data, 7 enterprises, which according to The Law on Development of Small and Medium-sized Enterprises (The Official Gazette of the Republic of Srpska, 2013, 50/13) and The Law on Amendments to the Law on Development of Small and Medium-sized Enterprises (The Official Gazette of the Republic of Srpska, 2019, 84/19) do not fall into the category of SMEs, were excluded from further analysis. The final sample size relevant for further analysis is 81 export-oriented SMEs. The data obtained through questionnaires were transported into the tables of software for spreadsheet calculation, Microsoft Office Excel 2017, so that they can be processed further in Statistical Package for Social Studies, IBM SPSS Statistics 24.0.

3.3. Research instrument

The specificity of the research context required respecting international engagement of SMEs of developing countries. As a basic conceptual framework for the constitution of the IEO measurement instrument, the research on entrepreneurial orientation at the level of the enterprise by Covin and Slevin was used (Covin & Slevin, 1989). The scale is supplemented by entrepreneurial orientation research that takes into account the international aspect of business (Dimitratos et al., 2012) with a focus on SMEs (Knight, 2001), while the research of Zahra and Covin (Zahra & Covin, 1995) is used as a basis for a strategic approach to internationalization. The reliability and validity of the mentioned scales has been confirmed in the context of the business of enterprises of different sizes from

the USA and the UK thus facilitating the creation of the adapted measurement instrument.

The statements of the mentioned scales are adapted to the research of export-oriented SMEs from BiH by being translated into the local language, limited to a period of three years (suitable for the dynamic business environment and the shorter product life cycle of SMEs) and formulated to direct at doing business in the foreign market. The original statements relating to the general business of the enterprise or to international business in general have been adapted to focus on the export activities of SMEs by adding terms such as "on a foreign market" and "export decisions".

Also, the measurement of international risk-taking was adapted by shifting the focus from the general tendency towards high-risk projects to "higher-than-average returns", which is a more pragmatic indicator for resource-limited exporting SMEs from BiH. In addition to the abovementioned, the concept of international proactivity is expanded with additional claims relating to initiating the reaction of competitors and aggressive approach to competitors. In this way, a measurement instrument that corresponds to doing business in conditions of limited resources and uncertain export activities of SMEs from BiH was obtained.

The scale comprised three dimensions: international innovativeness, international proactiveness and international risk-taking. The innovated measurement instrument consists of 11 items to be assessed by respondents on a five-point Likert scale, where 1 signifies strong disagreement and 5 signifies strong agreement with each item (Table 1). Items are formulated in such a way so that a higher value signifies a higher degree of international innovativeness, international proactiveness and international risk-taking.

Table 1

Coding the items of international entrepreneurial orientation dimension

Code	Item	Potential response
II1	For the past three years, our enterprise usually places novel (innovative) products/services (and not the existing products/services) on a foreign market. (adapted from Zahra & Covin, 1995)	1 2 3 4 5
II2	For the past three years, our enterprise has introduced more novel product lines/services. (adapted from Covin & Slevin, 1989)	1 2 3 4 5
II3	For the past three years, our enterprise has performed significant changes on its products/services. (adapted from Zahra & Covin, 1995)	1 2 3 4 5
II4	In our enterprise, there is great commitment to the activities of research and novel products/services development. (adapted from Knight, 2001)	1 2 3 4 5
II5	For the past three years, our enterprise has introduced more novel production methods and technologies. (adapted from Dimitratos et al., 2012)	1 2 3 4 5
IP1	Our enterprise is usually the first one to initiate the activities to which the competitors have to react. (adapted from Covin & Slevin, 1989)	1 2 3 4 5
IP2	Our enterprise is usually among the first to introduce novel products/services, as well as novel production processes and business practices. (adapted from Dimitratos et al., 2012)	1 2 3 4 5
IP3	Our enterprise usually has aggressive approach to the competition, that is, it strives to "destroy" the competition. (adapted from Covin & Slevin, 1989)	1 2 3 4 5
IRT1	On a foreign market, our enterprise strives to realize projects in which the expected return is higher than average. (adapted from Dimitratos et al., 2012)	1 2 3 4 5
IRT2	Our enterprise takes bold actions on a foreign market. (adapted from Covin & Slevin, 1989)	1 2 3 4 5
IRT3	In the conditions of uncertainty, our enterprise has an aggressive approach while making decisions about export so as to make the most of potential business opportunities. (adapted from Knight, 2001)	1 2 3 4 5

Note. II – international innovativeness, IP – international proactiveness, IRT - International risk-taking.
Source: prepared by author.

The total of scores that each respondent assigned to the items that make up the scale does not have satisfying informational nature as it prevents determining whether the obtained result is low, medium or high in relation to the results of other respondents. Accordingly, a latent variable as an average value of manifested indicators (the number that a respondent chose on a scale from one (1) to five (5) for all 11 statements which are an integral part of the scale) was formed, which facilitates the orientation of a respondent's position in a sample (Pallant, 2009, pp. 86-88; McDonald, 2013). Based on theoretical concept, IEO consists of three dimensions: international innovativeness, international proactiveness and international risk-taking, that is, three subscales that can be analyzed separately. For that reason, for the needs of further consideration of this phenomenon, three additional latent variables that represent the values of the aforementioned three IEO dimensions were formed. The obtained average values for the scale as a whole, as well as for the subscales, are treated as quantitative variables in the following steps of the research (McDonald, 2013).

3.4. The methodology of the analysis of psychometric features of the research instrument

In order for the scale to be considered a quality measurement instrument, it is necessary to conduct the assessment of its reliability and validity. The reliability of a measurement scale represents the degree of its resistance to accidental mistakes (e.g. due to unclear questions or inappropriate choice of the respondent), and it is considered from the aspect of test-retest reliability and internal consistency (Field, 2018, p. 1044). In this research, the focus was on determining internal consistency of the revised IEO scale in the context of SMEs from BiH. Internal consistency relates to the degree of relatability of the items that the scale consists of, i.e. the probability that based on the ranking of one item, with certain degree of accuracy, the assessments of other items that make up the scale are evaluated (Ibidem, 2018, p. 1044). For determining the internal consistency of the revised IEO scale, Cronbach's alpha coefficient with accompanying indicators was used: Cronbach's Alpha if Item Deleted, Inter-Item Correlations and Corrected Item-Total Correlation.

Besides reliability, for determining the adequacy of the use of a certain measurement scale it is also necessary to examine its validity. Given that during empirical research, measurement scales were used that were taken from relevant literature (adjusted to research context) with previously determined number of items, proportional prevalence of items, as well as their contents, it was assumed that they possess content validity. Thus, only the construct validity (specifically, factor validity) of the scale was tested by examining its correlation with other measures of IEO (Covin & Slevin, 1989, p. 79). Furthermore, it was necessary to determine whether the subscales that make up the construction of IEO variables contain the items that are interconnected, but simultaneously relatively independent in relation to other subscales that are a part of the same construction.

In order to determine whether the structure of the scale for measuring IEO construction used in the empirical research on a sample of SMEs from BiH is aligned with other scales measuring the same construction, the examining of its validity was initiated. To assess validity, factor analysis was employed as the primary multivariate method to extract a smaller number of factors (linear combinations of original variables) that explain a greater portion of the variance in the correlation structure (Pallant, 2009, p. 181).

Principal components analysis (PCA) was chosen as it is used most often, and it is considered appropriate for research in social sciences. Before conducting the analysis, it was examined whether the data collected in the research satisfy the assumptions for the use of this technique: the size of the sample and inter-item correlation which the scale consists of (Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy - KMO test). For the needs of component extraction, *Principal components* technique was used, as a default technique in the principal components analysis. Considering that the interpretability of established (manifested) components is important for principal components analysis, components rotation using oblique rotation method – *Promax* was conducted, which allows the existence of certain inter-item correlation. This method is convenient because in economic phenomena, such as IEO, behavior can be rarely explained by constructions that are completely independent (mutually unrelated) (Costello & Osborne, 2005).

4. Research results

4.1. The results of the reliability analysis of the measurement scale of international entrepreneurial orientation

Table 2 provides a summary profile of the 81 SMEs included in the sample, covering firm size, industry sector, legal form of organization, ownership structure, and firm age. The sample is relatively evenly distributed across micro, small, and medium enterprises, with manufacturing-oriented sectors representing the majority of respondents. Most firms are organized as limited liability companies and are privately owned.

By reviewing Cronbach's alpha coefficient values shown in Table 3, it was determined that the items based on which operationalized variables are compatible, that is, that respondents assign to them the same or similar sense. Cronbach's alpha coefficient for all dimensions and the whole construction is in the range from 0.753 to 0.906, which is above recommended acceptable value of 0.7 (Sekaran & Bougie, 2016, p. 311), so it is concluded that the items can make up the measurement scale.

Table 2
Sample profile of SMEs

Characteristic	Category	Frequency	Percentage
Firm size			
	Micro enterprises	28	34.6
	Small enterprises	27	33.3
	Medium enterprises	26	32.1
	Total	**81**	**100.0**
Industry / Sector			
	Manufacturing industry	18	22.2
	Food industry	16	19.8
	Wood industry	14	17.3
	Agriculture, hunting and forestry	12	14.8
	Textile industry	7	8.6
	Other	7	8.6
	Wholesale and retail trade	4	4.9
	Mining and quarrying	1	1.2
	Construction	1	1.2
	Information and communication technology	1	1.2
	Total	**81**	**100.0**
Legal form of organization			
	Limited liability company	72	88.9
	Cooperative	4	4.9
	Joint-stock company	3	3.7
	Sole proprietorship	2	2.5
	Total	**81**	**100.0**
Ownership structure			
	Private ownership	80	98.8
	Other business entity	1	1.2
	Total	**81**	**100.0**
Firm age			
Mean (years)	Standard deviation	Median (years)	Mode	Range (years)
14.25	10.754	13	4	1-49

Source: Research results (N=81).

Table 3
Reliability indicators of the measurement scale of IEO

Dimension / construction	N of Items	Mean	Std. Deviation	Cronbach's Alpha Based on Standardized Items	Mean of Inter-Item Correlations	Mean of Corrected Item-Total Correlation
IRT	3	3.74	2.396	0.860	0.672	0.737
IP	3	3.41	2.399	0.753	0.504	0.577
II	5	3.95	4.165	0.872	0.576	0.698
IEO	11	3.74	7.771	0.906	0.468	0.649

Note. IRT – international risk-taking, IP – international proactiveness, II – international innovativeness. Item-level descriptive statistics are available from the corresponding author upon request. Source: Research results (N=81).

The dimensions that make up IEO construction also have acceptable reliability: Cronbach's alpha coefficient for international risk-taking dimension amounts to 0.860, international proactiveness dimension 0.753 and international innovativeness dimension 0.872. The stated coefficients are above the recommended value of 0.7 (Sekaran & Bougie, 2016, p. 311) (Table 3).

By detailed analysis of other indicators of internal consistency of items both within certain dimensions, and for the whole construction (Table 3), it was determined that Mean of Inter-Item Correlations for all dimensions and for the whole construction is positive, which indicates that all items measure the same characteristic and that there are not "reversely" formulated items. The same thing is also shown by the Mean of Corrected Item-Total Correlation which is above 0.3 for all individual dimensions and the whole construction (Pallant, 2009, p. 100).

In addition, Cronbach's alpha coefficient value is checked if a certain value is deleted, and it was stated that in international proactiveness dimension and international innovativeness dimension, as well as in IEO construction, the aforementioned coefficient would decrease, that is, we would have a less reliable scale (Table 4). In international risk-taking dimension, by deleting one item (IRT1), Cronbach's alpha coefficient for that dimension would increase from 0.860 to 0.879, which represents insignificant increase, so it was decided to keep this item. Based on the aforementioned, all the items are kept for further analysis purposes.

Table 4
The analysis of Cronbach's Alpha if Item Deleted for IEO scale

IRT (α=0.860)		IP (α=0.753)		II (α=0.872)		IEO(α=0.906)	
Item	Cronbach's Alpha if Item Deleted	Item	Cronbach's Alpha if Item Deleted	Item	Cronbach's Alpha if Item Deleted	Item	Cronbach's Alpha if Item Deleted
IRT1	0.879	IP1	0.644	II1	0.857	IRT1	0.901
IRT2	0.753	IP2	0.624	II2	0.818	IRT2	0.901
IRT3	0.770	IP3	0.721	II3	0.831	IRT3	0.897
				II4	0.860	IP1	0.901
				II5	0.839	IP2	0.899
						IP3	0.894
						II1	0.894
						II2	0.895
						II3	0.897
						II4	0.900
						II5	0,896

Note. IRT – international risk-taking, IP – international proactiveness, II – international innovativeness. Source: Research results (N=81).

4.2. Principal components analysis results for international entrepreneurial orientational scale

Before conducting principal components analysis for IEO scale, it was examined whether the data obtained through research satisfy the assumptions for the use of this technique. According to the recommendations of Tabachnick and Fidell (2007, according to Pallant, 2009, p. 183) five respondents per one item is sufficient to consider that the sample size is suitable for conducting factor analysis.

Considering that 81 enterprises took part in the conducted research and that the used scale for measuring IEO construction contained 11 items (approximately 7 respondents per one item), the condition of the minimum sample size required was fulfilled. Also, in order to determine whether the data collected from the sample are suitable for factor analysis, the strength of inter-item correlation which constitute the scale was examined. Statistical Package for Social Studies (SPSS) contains two tests for examining this assumption (Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy - KMO test) the results of which are shown in Table 5.

Table 5
The results of KMO and Bartlett's Test for IEO scale

Indicator		Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.856
Bartlett's Test of Sphericity	Approx. Chi-Square	512.505
	Degrees of freedom	55
	Significance	0.000

Note. Research results (N=81).

The KMO value (0.856 > 0.6) indicates adequate sampling for factor analysis (Pallant, 2009, p. 187), while Bartlett's Test significance ($p = 0.000 < 0.001$) confirms substantial correlations among IEO scale items (Ibidem, 2009, p. 191) (Table 5).

The Principal Components technique was employed for extraction, as the default method in PCA. Results showed the first three components with eigenvalues >1 (5.696, 1.456, 1.810), explaining 72.38% of total variance (51.78%, 13.24%, 7.36%, respectively). Per the Kaiser criterion (eigenvalues ≥1) (Field, 2018, p. 1005), three components were retained. Unrotated loadings in the Component Matrix exceeded 0.4 for all items across these components, confirming solution adequacy (Pallant, 2009, p. 194) (Table 6).

Given the importance of interpretable components in PCA, Promax oblique rotation was applied, which allows the existence of certain inter-item correlation. Table 6 presents the rotated factor loadings and eigenvalues. The minimum acceptable value of factor loadings for items is 0.3, while in the case of "factor cross-loadings", that is, the items with factor loadings on two or more components, it is acceptable to retain items with loadings >0.5 on one primary component and <0.5 on others (Costello & Osborne, 2005, pp. 4-5). Following these guidelines for clearer component structure, loadings below 0.4 are omitted from Table 6.

Table 6
Principal components analysis results with Promax rotation for IEO scale

Items	Components		
	1	2	3
II1 (Novel production lines)	0.913		
II2 (Changes on products)	0.865		
II3 (Novel production methods)	0.810		
II4 (Novel products)	0.722		
II5 (Research and development activities)	0.615		0.435
IRT1 (Activity boldness)		0.929	
IRT2 (Project risk level)		0.798	
IRT3 (Aggressive decision-making)		0.768	
IP1(Initiating competition activities)			0.910
IP2 (First to introduce novel products or services)			0.639
IP3 (Aggressive approach to competition)			0.612
Eigenvalues	5.696	1.456	1.810

Note. Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization. Rotation converged in 6 iterations. Factor loadings below 0,4 are not shown. Source: Research results (N=81).

The rotated PCA solution for the IEO scale (Table 6) revealed a simple structure: all three components showed high factor loadings (average factor loading is 0.78), with each item loading strongly on only one component, supporting their combination into a single scale. One item (II5) cross-loaded acceptably (>0.3 on two components: 0.615 on Component 1, 0.435 on Component 3), but was retained in Component 1 as the primary loading exceeded 0.5. Thus, 11 items defined the three-component IEO scale. Moderate positive correlations among components appear in Table 7.

Table 7
Correlation matrix of components for IEO scale

Components	1 – International innovativeness	2 – International risk-taking	3 – International proactiveness
1 – International innovativeness	1.000	0.466	0.533
2 – International risk-taking	0.466	1.000	0.466
3 – International proactiveness	0.533	0.466	1.000

Note. Research results (N=81).

5. Discussion

International entrepreneurial orientation is in relevant literature conceptualized as a construction consisting of a different number of dimensions. Covin and Slevin (1991) were the first to introduce the consideration of entrepreneurship concept from the aspect of enterprise behavior regarding three basic dimensions: innovativeness, proactiveness and risk-taking. Expanding on their model, Lumpkin and Dess (1996) added two dimensions: competitive aggressiveness and autonomy.

Unlike them, Smart and Conant (2011) in their research use entrepreneurial orientation construction consisting of six dimensions: risk-taking tendency, inclusion in strategic planning activities tendency, the capability of identifying needs and wishes of customers, innovativeness level, capability of persistence in realizing business vision and capability of identifying new opportunities. Considering that in empirical research the measurement scales including three dimensions – innovativeness, risk-taking and proac-

tiveness (Covin & Miller, 2014) are mainly used for IEO operationalization, in this research, as basic elements of IEO construction, international innovativeness, international proactiveness and international risk-taking dimensions were used.

The IEO scales by Covin and Slevin (1989), Zahra and Covin (1995), Knight (2001), and Dimitratos et al. (2012) served as the starting point, adapted to the characteristics of export-oriented SMEs from BiH. The revised 11-item scale uses a five-point Likert format (1 = strong disagreement to 5 = strong agreement; Table 1), with higher scores indicating greater international innovativeness, proactiveness, and risk-taking.

To assess internal consistency and construct validity of the IEO scale used for 81 export-oriented BiH SMEs, Cronbach's alpha and PCA with Promax rotation were employed. Results confirmed the 11-item scale's reliability ($\alpha = 0.906$ overall; subscales: risk-taking $\alpha = 0.860$, proactiveness $\alpha = 0.753$, innovativeness $\alpha = 0.872$), all exceeding 0.7 (Sekaran & Bougie, 2016, p. 311) and aligning with prior studies (Ahmed & Brennan, 2019; Mostafiz et al., 2025). The rotated PCA revealed a simple three-component structure matching established IEO dimensions. The interpretation of the manifested three components is in accordance with previous relevant research (Koe, 2016; Etemad, 2015), because the items that relate to international innovativeness gave large factor loadings on the first component, the items that relate to international risk-taking gave factor loadings on second component and the items that relate to international proactiveness gave the factor ladings on third component.

6. Conclusion and implications

The aim of this research is to determine whether and to what extent the modified instrument IEO is reliable and valid for SMEs from post-transition countries which strive to realize entrepreneurial internationalization in the conditions of institutional discontinuity.

Given that the research on IEO of SMEs from developing countries and post-transition economies are still relatively rare, and most of them relate to Brazil, Russia, India or China (Inkizhinov et al., 2021), the lack of scientifically-based instrument for measuring IEO in institutionally specific business conditions was identified. As Klein (2022) points out low replication of research results is a consequence of the lack of updated information and the lack of a psychometric valid instrument. For the purpose of the aforementioned, the development of IEO scale constituted of three dimensions (international innovativeness, international proactiveness and international risk-taking) operationalized with 11 items was initiated.

The scale was intended for IEO evaluation of export-oriented SMEs from developing countries. Adequate statistical methods and techniques were used to conduct scientific conceptualization and scale validation.

As was assumed, this research confirmed significant links between IEO and its dimensions (international innovativeness, international proactiveness and international risk-taking). Statistical analyses confirm that the revised IEO scale, adapted for export-oriented SMEs amid institutional discontinuity, demonstrates internal consistency and aligns with established measures of the construct. Since the reliability and validity of the revised IEO scale were confirmed, future research can confidently adopt it for export-oriented SMEs from BiH and other developing countries with similar institutional contexts.

6.1. Theoretical contribution of the research

The results of the reliability and validity analysis of the revised IEO measurement scale used in this research provide conceptual understanding of the manner in which the measurement instrument can be applied in the context of a small and open post-transition economy such as BiH. Such understanding enables future research of the influence of IEO on other variables of research interest, such as, for example, export performance of SMEs.

Considering the identified lack of scientifically-based IEO measurement instrument in institutionally specific business conditions of SMEs (Inkizhinov et al., 2021), theoretical contribution of the realized research reflects in the complementation of the research of IEO conducted in developed countries. Accordingly, the research results represent the basis for further research of the internationalization of entrepreneurial enterprises from developing countries which strive for developed countries markets, and whose institutional conditions significantly differ compared to their domicile economy. Through this research, a re-

liable instrument was suggested whereby IEO level of export- oriented SMEs adjusted to business in the conditions of institutional discontinuity can be determined. Furthermore, the conducted research contributes to the consolidation of theoretical perspectives in the area of entrepreneurship and international business directed at determining assumptions and motives related to initiation, growth and internationalization of business of new entrepreneurial enterprises. Finally, developed revised IEO measurement scale can serve as the basis for creating measurement instruments adjusted to specific organizational context, such as, for example, universities which, in modern educational ambience, are expected to encourage and intensify international academic cooperation, as well as international cooperation with business subjects.

6.2. Policy implications

The developed revised IEO scale can help policy creators in identifying SMEs with pronounced international entrepreneurial orientation so that appropriate support measures could be conducted. This is of great significance for post-transition economy such as BiH, since the managers that use business patterns of former planned economy are still active, which makes it difficult for them to understand and implement IEO concept. Given that the managers of older generations do not want to expose themselves to additional risk that the engagement on an international market brings, and that they cannot influence many decisions, conditions and circumstances, national policy creators should conduct activities directed at a more intensive IEO development. In order to encourage timely and successful internationalization of SMEs from BiH, policy creators responsible for encouraging international expansion, based on the suggested revised IEO scale, should evaluate SMEs potentials and choose those with whom they will create certain forms of public–private partnerships. Models of such partnerships should encompass not only financial but also non-financial aspects of cooperation, with special emphasis on participatory governance, decision-making, and the implementation of novel products, services, and processes.

The importance of the developed revised IEO scale for national policy creators is especially pronounced in encouraging development of international entrepreneurship among the young. Using this measurement instrument enables them to evaluate entrepreneurial intentions and identify international entrepreneurial vision of young entrepreneurs who are just entering the labor market in order to start and internationalize their business enterprise as soon as possible, and thus become employment generators. The revised scale provides them with a basis for determining potential motivators and barriers, establishing priorities while choosing subsidy beneficiary, as well as defining and realizing adequate non-financial support measures in that process (e.g. providing various modes of mentorship and mitigating institutional limitations).

Besides the aforementioned, government authorities ought to cooperate more intensively with the academic community regarding support for the development of academic programs of entrepreneurship that will help students to understand IEO and its significance for the internationalization of entrepreneurial enterprises in the early phase of development. The use of IEO measurement instrument enables the identification of potential entrepreneurs in the making, with a vision directed towards international environment among students. In that way, national policy creators would have timely information about the structure and prevalence of potential international entrepreneurs that will need their systemic support in the near future.

6.3. Managerial implications

The developed revised IEO scale for the managers of export-oriented SMEs from developing countries represents the tool for observing the complexity of international market and measuring IEO at the organizational level. It enables entrepreneurs with international business vision to determine the extent to which their enterprise is ready for international expansion, to what extent it can be adjusted to uncertain international environment, as well as to compare with entrepreneurial enterprises which proved successful on the international market. Prominent international innovativeness, proactiveness and risk-taking can encourage entrepreneurial enterprise to expand internationally due to the lack of appropriate institutional support in the country of domicile, i.e. they can opt for the so-called institutional escapism.

The second reason that could encourage such enterprises is facing numerous business barriers on domicile market which they could eliminate by in-

ternationalizing their activities and thus become independent from domicile business conditions. Also, based on the evaluation performed by using IEO scale, entrepreneurs can determine strengths and weaknesses that relate to the opportunities of international expansion of their enterprise, and especially for identifying the areas in which additional education or experience is needed, and based on that engage oneself in obtaining competences relevant for successful international business.

Besides the aforementioned, the suggested IEO scale enables managers to assess risk and develop strategies for overcoming the risk linked to doing business on an international market. It offers them guidelines on how to be innovative regarding product/service and process range, as well as proactive when facing competition.

6.4. Limitations and suggestions for future research

IEO research in various contexts is, mainly, based on an individual's (owner and/or manager) attitude, as was done in this research as well. However, the manner and degree of IEO implementation, even in SMEs, is often the result of joint decisions of entrepreneurial team, so future research, as a unit of analysis, could include a group of employees who participate together in making decisions and undertaking activities linked to international entrepreneurship. In the conducted research, potential interventions that policy creators and managers can conduct with the aim of increasing IEO, were stated but not researched, as well as IEO temporal stability after certain interventions.

The research was realized on a sample of export-oriented SMEs from BiH, that is, SMEs that are not members of the Foreign trade chamber of BiH, as well as large enterprises were removed from the target population. Expanding research population with these categories of enterprises would provide more detailed and deeper analysis of reliability and validity of IEO scale in the context of BiH economy. Besides the enterprises from BiH, it would be useful to expand the geographical scope of research by including a greater number of post-transition economies, for example, the countries of the Western Balkans, considering their similar history of economic development.

Significant direction for future research would also be examining differences in the intensity of IEO, as well as its dimensions, between different categories of entrepreneurs like, for example, between an entrepreneur with high export performance and an entrepreneur with low export performance, or between entrepreneurs which do business in other developing countries and entrepreneurs who directed their internationalization towards developed market economies. Furthermore, besides the influence of the conditions of external environment, that is, institutional conditions that are considered in this research, it would be useful to examine in what way different determinants of IEO internal environment influence IEO (for example, organizational culture).

Author contributions: -

Funding: This research received no external funding

Institutional Review Board Statement: Not applicable.
Informed Consent Statement: Not applicable.
Data Availability Statement: Available upon request.
Conflicts of Interest: The author declare no conflict of interest.

References

Ahmed, F. U., & Brennan, L. (2019). Performance determinants of early internationalizing firms: The role of international entrepreneurial orientation. *Journal of International Entrepreneurship, 17*(3), 389-424. https://doi.org/10.1007/s10843-019-00250-7.

Anderson, B. S., Kreiser, P. M., Kuratko, D. F., Hornsby, J. S., & Eshima, Y. (2015). Reconceptualizing entrepreneurial orientation. *Strategic Management Journal, 10*(36), 1579-1596. https://doi.org/10.1002/smj.2298.

Basso, O., Fayolle, A., & Bouchard, V. (2009). Entrepreneurial orientation: The making of a concept. *The International Journal of Entrepreneurship and Innovation, 10*(4), 313-321. https://doi.org/10.5367/000000009790012327.

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation, 10*(1). https://doi.org/10.7275/jyj1-4868.

Covin, J. G., & Slevin, D. P. (1991). A Conceptual Model of Entrepreneurship as Firm Behavior. *Entrepreneurship Theory and Practice, 16*(1), 7-26. https://doi.org/10.1177/104225879101600102.

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10*(1), 75-87. https://doi.org/10.1002/smj.4250100107.

Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial Orientation Theory and Research: Reflections on a Needed Construct. *Entrepreneurship Theory and Practice, 35*(5), 855-872. https://doi.org/10.1111/j.1540-6520.2011.-00482.x.

Covin, J. G., & Wales, W. J. (2012). The Measurement of Entrepreneurial Orientation. *Entrepreneurship Theory and Practice, 36*(4), 677-702. https://doi.org/10.1111/j.1540-6520.2010.-00432.x.

Covin, J. G., & Miller, D. (2014). International entrepreneurial orientation: Conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship Theory and Practice, 38*(1), 11-44. https://doi.org/10.1111/etap.12027.

Covin, J. G., Rigtering, J. C., Hughes, M., Kraus, S., Cheng, C. F., & Bouncken, R. B. (2020). Individual and team entrepreneurial orientation: Scale development and configurations for success. *Journal of Business Research, 112*, 1-12. https://doi.org/10.1016/j.jbusres.2020.02.023.

Dimitratos, P., Plakoyiannaki, E., Pitsoulaki, A., & Tüselmann, H. J. (2010). The global smaller firm in international entrepreneurship. *International Business Review, 19*(6), 589-606. https://doi.org/10.1016/j.ibusrev.2010.03.005.

Dimitratos, P., Voudouris, I., Plakoyiannaki, E., & Nakos, G. (2012). International entrepreneurial culture—Toward a comprehensive opportunity-based operation alization of international entrepreneur ship. *International Business Review, 21*(4), 708-721. https://doi.org/10.1016/j.ibusrev.2011.08.001.

Etemad, H. (2015). The principal components of the international entrepreneurial orientation-performance relation and its linkages with the key concepts and key constructs in the present issue. *Journal of International Entrepreneurship, 13*(4), 361-369. https://doi.org/10.1007/s10843-015-0163-7.

European Commission. (2021). *2021 SME Country Fact Sheet, Bosnia and Herzegovina*. Brussels: European Commission. https://enlargement.ec.europa.eu/system/files/2021-09/bih_-_sme_fact_sheet_2021.pdf (accessed on 15 November 2025).

European Commission. (2024). *EU Candi date Countries' and Potential Candi dates' Economic Quarterly (CEEQ) Q42023.* https://economy-finance.ec.europa.eu/document/download/00bb7307-1694-4c7e-99de-5c3e662b2172_en?filename=tp070_en.pdf&prefLang=sk (accessed on 21 November 2025).

Field, A. P. (2018). *Discovering statistics us ing IBM SPSS Statistics (5th ed.)*. London: Sage.

Freeman, S. M., & Cavusgil, S. T. (2007). Toward a typology of commitment states among managers of born-global firms: A study of accelerated internationalization. *Journal of International Marketing, 15*(4), 1-40. https://doi.org/10.1509/jimk.15.4.1.

García-Villaverde, P. M., Ruiz-Ortega, M. J., & Ignacio Canales, J. (2012). Entrepreneurial orientation and the threat of imitation: The influence of

upstream and downstream capabilities. *European Management Journal, 31* (3), 263-277. https://doi.org/10.1016/j.emj.2012.11.006.

Gupta, R., Pandey, R., & Sebastian, V. J. (2021). International Entrepreneurial Orientation (IEO): A bibliometric over view of scholarly research. *Journal of Business Research, 125*, 74-88. https://doi.org/10.1016/j.jbusres.2020.12.005.

Hernández-Perlines, F., Moreno-García, J., & Yañez-Araque, B. (2016). The mediating role of competitive strategy in international entrepreneurial orientation. *Journal of Business Research, 69*(11), 5383-5389. https://doi.org/10.1016/j.jbusres.2016.04.142.

Hunt, R. A. (2021). Entrepreneurial orientation and the fate of corporate acquisitions. *Journal of Business Research, 122*, 241-255. https://doi.org/10.1016/j.jbusres.2020.09.002.

Inkizhinov, B., Gorenskaia, E., Nazarov, D., & Klarin, A. (2021). Entrepreneurship in emerging markets: mapping the scholar ship and suggesting future research directions. *International Journal of Emerging Markets, 16*(7), 1404-1429. https://doi.org/10.1108/IJOEM-11-2019-0988.

Jones, M. V., Coviello, N. E., & Tang, Y. K. (2011). International entrepreneurship research (1989–2009): a domain ontology and thematic analysis. *Journal of Business Venturing, 26*(6), 632-659. https://doi.org/10.1016/j.jbusvent.2011.04.001.

Kabir, I., Abdullahi, Y. A., & Naqshbandi, M. M. (2023). Measuring entrepreneurial orientation and institutional theory for informal enterprises: scale validation. *Quality & Quantity, 57*(2), 1439-1463. https://doi.org/10.1007/s11135-022-01357-1.

Khandwalla, P. N. (1977). *The design of organizations* (Vol. 260). New York: Harcourt Brace Jovanovich.

Klein, J. (2022). Improving the reproducibility of findings by updating research methodology. *Quality & Quantity, 56*(3), 1597-1609. https://doi.org/10.1007/s11135-021-01196-6.

Knight, G. A. (2001). Entrepreneurship and strategy in the international SME. *Journal of International Management, 7*(3), 155-171. https://doi.org/10.1016/S1075-4253(01)00042-4.

Knight, G. A., & Kim, D. (2009). International business competence and the contemporary firm. *Journal of International Business Studies, 40*(2), 255-273. https://doi.org/10.1057/palgrave.jibs.8400397.

Koe, W. L. (2016). The relationship between Individual Entrepreneurial Orientation (IEO) and entrepreneurial intention. *Journal of Global Entrepreneurship Research, 6*(1), 1-11. https://doi.org/10.1186/s40497-016-0057-8.

Kraus, S., Niemand, T., Halberstadt, J., Shaw, E., & Syrjä, P. (2017). Social entrepreneurship orientation: development of a measurement scale. *International Journal of Entrepreneurial Behavior & Research, 23*(6), 977-997. https://doi.org/10.1108/IJEBR-07-2016-0206.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review, 21*(1), 135-172. https://doi.org/10.2307/258632.

McDonald, R. P. (2013). *Test Theory: A Unified Treatment*. Mahwah, NJ:Erlbaum: Psychology Press.

McDougall, P. P., & Oviatt, B. M. (2000). International entrepreneurship: the intersection of two research paths. *Academy of Management Journal, 43*(5), 902-906. https://doi.org/10.2307/1556418.

Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal, 3*(1), 1-25. https://doi.org/10.1002/smj.4250030102.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management science, 29*(7), 770-791. https://doi.org/10.1287/mnsc.29.7.770.

Mitrašević, L., Radević, I., & Barišić, R. (2023). The analysis of level of institutional support for international entrepreneurial expansion of small and medium-sized enterprises from developing countries. *Proceedings of Faculty of Economics Brcko, 17*(1), 15-24. https://doi.org/10.7251/zrefb2317015m.

Mostafiz, M. I., Hughes, M., Gali, N., & Sambasivan, M. (2023). The context sensitivity of international entrepreneurial orientation and the role of process and product innovation capabilities. *British Journal of Management, 34*(4), 2015-2035. https://doi.org/10.1111/1467-8551.12681.

Mostafiz, M. I., Ahmed, F. U., Tardios, J., Hughes, P., &

Tarba, S. Y. (2025). Configuring international entrepreneurial orientation and dynamic internationalization capability to predict international performance. *International Business Review, 34*(2), 102275. https://doi.org/10.1016/j.ibusrev.2024.102275.

OECD. (2022). *SME Policy Index: Western B a l k a n s and Turkey 2022: Assessing the Implementation of the Small Business Act for Europe*. Paris: SME Policy Index, OECD Publishing. https://doi.org/10.1787/b47d15f0-en.

OECD. (2024). *Western Balkans Competitiveness Outlook 2024: Bosnia and Herzegovina, Competitiveness and Private Sector Development*. Paris: OECD Publishing. https://doi.org/10.1787/82e0432e-en.

Olmsted, J. (2024). Research Reliability and Validity: Why do they matter?. *American Dental Hygienists' Association, 98*(6), 53-57.

Pallant, J. (2009). *SPSS: priručnik za preživljavanje: postupni vodič kroz analizupodataka pomoću SPSS-a za Windows(verzija 15) [SPSS, Survival Manual: AStcp by Step Guide to Data Analysis Using SPSS for Windows (Version 15), Third Edition]*. Beograd: Mikro knjiga.

Pérez-Luño, A., Wiklund, J., & Cabrera, R. V. (2011). The dual nature of innovative activity: How entrepreneurial orientation influences innovation generation and adoption. *Journal of Business Venturing, 26*(5), 555-571. https://doi.org/10.1016/j.jbusvent.2010.03.001.

Petković, S., & Sorak, S. (2019). Effects of the establishment of entrepreneurial orientation on the performances of small and medium enterprises in transition countries: empirical evidences from Bosnia and Herzegovina. *Zagreb International Review of Economics & Business, 22*, 37-67. https://hrcak.srce.hr/file/318628.

Rwehumbiza, D., & Marinov, M. A. (2020). Development of entrepreneurial orientation of export manufacturers from emerging economies. *International Entrepreneurship and Management Journal, 16*(2), 667-689. https://doi.org/10.1007/s11365-019-00580-x.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.

Službeni glasnik Republike Srpske. (2013). *Zakon o razvoju malih i srednjih preduzeća*. Banja Luka: Službeni glasnik Republike Srpske, 50/13. [Official Gazette of the Republic of Srpska. (2013). Law on the Development of Small and Medium-Sized Enterprises. Banja Luka: Official Gazette of the Republic of Srpska, No. 50/13].

Službeni glasnik Republike Srpske. (2019). *Zakon o izmjenama i dopunama Zakona o razvoju malih i srednjih preduzeća*. Banja Luka: Službeni glasnik Republike Srpske 84/19. [Official Gazette of the Republic of Srpska. (2019). Law on Amendments to the Law on the Development of Small and Medium-Sized Enterprises. Banja Luka: Official Gazette of the Republic of the Republic of Srpska, No. 84/19].

Smart, D. T., & Conant, J. S. (2011). Entre preneurial orientation, distinctive marketing competencies and organizational performance. *Journal of Applied Business Research (JABR), 10*(3), 28-38. https://doi.org/10.19030/jabr.v10i3.5921.

Sundqvist, S., Kyläheiko, K., Kuivalainen, O., & Cadogan, J. W. (2012). Kirznerian and Schumpeterian entrepreneurial-oriented behavior in turbulent export markets. *International Marketing Review, 29*(2), 203-219. https://doi.org/10.1108/02651331211216989.

Todorovic, Z. W., McNaughton, R. B., & Guild, P. (2011). ENTRE-U: An entrepreneurial orientation scale for universities. *Technovation, 31(2-3)*, 128-137. https://doi.org/10.1016/j.technovation.2010.10.009.

Wales, W., Gupta, V. K., Marino, L., & Shirokova, G. (2019). Entrepreneurial orientation: International, global and cross-cultural research. *International Small Business Journal, 37*(2), 95-104. https://doi.org/10.1177/0266242618813423.

Wiklund, J., & Shepherd, D. (2005). Entre preneurial orientation and small business performance: a configurational approach. *Journal of Business Venturing, 20*(1), 71-91. https://doi.org/10.1016/j.jbusvent.2004.01.001.

Zafar, Z., Wenyuan, L., Bait Ali Sulaiman, M. A., Siddiqui, K. A., & Qalati, S. A. (2022). Social entrepreneurship orientation and enterprise

fortune: An intermediary role of social performance. *Frontiers in Psychology, 12*, 755080. https://doi.org/10.3389/fpsyg.2021.755080.
Zahra, S. A., & Covin, J. G. (1995). Contex tual influences on the corporate entrepre neurship-performance relationship: Alongitudinal analysis. *Journal of Business Venturing, 10*(1), 43-58. https://doi.org/10.1016/0883-9026(94)00004-E.

Biography

Lidija Mitrašević, PhD, is an Assistant Professor at the Faculty of Economics Brčko, University of East Sarajevo, in the Department of Marketing, Management and Entrepreneurial Economics. She earned her PhD in the field of Entrepreneurial Economics at the Faculty of Economics, University of Banja Luka, Bosnia and Herzegovina. Assist. Prof. Mitrašević teaches the following courses: Enterprise Economics, Entrepreneurship, Business Organization, and Organizational Change Management. Her research interests include entrepreneurship, international business, international new ventures, network approach to internationalization, institutional theory, and institutional profile for entrepreneurship. She has published in journals such as Business Consultant, Economic Outlook: Magazine for Economic Theory and Practice, Proceedings of Faculty of Economics Brčko, Journal of Contemporary Economics (JCE), and has participated in numerous academic conferences. Dr. Mitrašević serves as a reviewer for several international journals and conference proceedings.

Међународна предузетничка оријентација: анализа поузданости и валидности скале у контексту малих и средњих предузећа Босне и Херцеговине

Лидија Митрашевић[1]

[1] Универзитет у Источном Сарајеву, Економски факултет Брчко, Студентска 11, 76100 Брчко, Босна и Херцеговина

Скала међународне предузетничке оријентације (IEO), извозно оријентисана мала и средња предузећа (МСП), земље у развоју, Кронбахов алфа коефицијент, анализа главних компоненти (PCA)

JEL класификација: F23, L26, C38, L25, O57

САЖЕТАК

Фокус овог истраживања је на операционализацији концепта међународне предузетничке оријентације (IEO) као најчешће коришћеног конструкта за оцјењивање детерминанти предузетничког понашања организација које намјеравају да уђу или су већ укључене у међународно пословање. Полазећи од теоријских основа концепта и тренутно емпиријски верификованих мјерних скала, развијен је модификовани мјерни инструмент, прилагођен специфичном контексту истраживања: малој и отвореној посттранзиционој земљи вишег средњег дохотка – Босни и Херцеговини (БиХ). Циљ рада је да се утврди да ли и у којој мјери је модификовани IEO инструмент поуздан и валидан за мала и средња предузећа (МСП) из посттранзиционих земаља која теже остваривању предузетничке интернационализације у условима институционалног дисконтинуитета. У циљу утврђивања конструктивне поузданости иновиране IEO скале, коришћен је Кронбахов алфа коефицијент са пратећим индикаторима, док је за провјеру валидности примјењена техника анализе главних компоненти (PCA) са Promax ротацијом. Емпиријско истраживање је спроведено на узорку од 81 извозно оријентисаног МСП из Босне и Херцеговине. Резултати истраживања показују да модификована IEO скала има добру унутрашњу конзистентност, као и њене подскале, односно димензије: међународну иновативност (5 ставки), међународну проактивност (3 ставке) и међународну склоност ка ризику (3 ставке). Ротирано рјешење PCA за IEO скалу указује на постојање једноставне структуре, јер све три компоненте (међународна иновативност, међународна проактивност и међународна склоност ка ризику) имају значајна факторска оптерећења, при чему све ставке показују висока оптерећења само на једној компоненти. У складу са добијеним резултатима, модификована IEO скала има потенцијал да допринесе истраживању међународног предузетништва у земљама у развоју, стварајући основу за интензивнија емпиријска истраживања и олакшавајући прикупљање, мјерење, анализу и интерпретацију података у практичне сврхе.